

**ABSTRACT OF THE DISCLOSURE**

A method is for imaging examination of an examination object. A contrast agent is administered to the object to be examined. At least two spatial distributions of X-ray attenuation values are determined, the values respectively representing the local X-ray attenuation coefficients or a quantity which is linearly dependent on the same. The two spatial distributions include at least one first attenuation value distribution and one second attenuation value distribution having determinations based on different X-ray spectrums. By evaluating the two attenuation value distributions, a spatial distribution of at least one predefined atomic number value or a spatial distribution of a non-predefined atomic number value in the object to be examined is determined, the spatial distribution containing information about the distribution of the administered contrast agent in the object to be examined. The spatial atomic number distribution is used to represent the contrast agent in the image.